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CANCER AMONG CHILDREN AND YOUNG ADULTS NEAR THE LAWRENCE LIVERMORE NATIONAL LABORATORY

Recently, the California Department of Health Services (CDHS) released a study of cancer occurrence among children and young adults born or living in Livermore, California. The study examined the risk of leukemia and non-Hodgkin's lymphoma among young people living near the Lawrence Livermore National Laboratory (LLNL). An increased risk of these two cancers among children living near the Sellafield nuclear facility in England had been previously suggested by a British study. The CDHS study was awarded by the Centers for Disease Control and Prevention with funding by the Department of Energy (DOE) under an existing Memorandum of Understanding.

Investigators studied two groups of children and young adults under the age of 25: (1) 226,273 persons born in Livermore between 1960 and 1990, and (2) 537,547 persons who actually lived in Livermore between 1960 and 1991. The number and types of cancer were determined over 3 decades (1960-1991), using data from cancer registries for Alameda County and CDHS.

No increased risk of leukemia or non-Hodgkin's lymphoma was detected among Livermore children living near a nuclear facility. However, a 2.4-fold increase in the risk of malignant melanoma, a form of skin cancer that can be fatal, was found for children and young adults who lived in Livermore compared with youngsters who lived within other areas of Alameda County. Twelve skin cancer cases were observed when only five were expected based on Alameda County statistics. A 6.4-fold increased risk of malignant melanoma (8 observed cases, 1.2 expected) was found for children born in Livermore between 1960 and 1991. The rate of melanoma was highest in those under 20 years of age. No increased risk of any other type of cancer was found.

Malignant melanoma is a disease almost exclusively found among non-Latino white populations. Researchers know that this cancer is associated with greater sunlight exposure, particularly with excess sunburns in youth, and occurs more frequently among higher socioeconomic groups. The CDHS report states that "it is not possible, within the scope of the current study, to assess whether or not melanoma cases had any affiliation with LLNL." The report indicated that there were several potential explanations as to why the melanoma rates were elevated, including more active skin cancer screening programs in Livermore than in the rest of Alameda County. Due to the small number of cases, the CDHS concluded that no additional studies of malignant melanoma should be undertaken at this time.

The complete report entitled "Cancer Incidence Among Children and Young Adults in Livermore, California 1960-1991" was conducted by the CDHS, Environmental Health Investigations Branch. A copy of the report is available through the DOE public reading rooms or through the Office of Epidemiologic Studies (EH-62) at 301- 903-3721.

This Health Bulletin is one in a series of routine publications issued by the Office of Health to share data from health studies throughout the DOE complex. The authors' conclusions do not necessarily reflect those of the Department. For more information contact: Office of Epidemiologic Studies, U.S. Department of Energy, Washington, D.C. 20585; Telephone (301) 903-3721.